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OBSERVATIONS

ON SOME

FORMS OF STERILITY

AND ON

PLACENTA PRÆVIA IN FIRST LABOURS:

WITH ILLUSTRATIVE CASES.

BY

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ON

STERILITY AND PRIMIPARAL PLACENTA PRÆVIA.

I BEGIN with the history of two patients whom I shall designate Mrs A and Mrs B, whose cases led to my offering this communication. They have this in common, that they were both elderly primiparæ, and their labours were complicated with placenta prævia. The one occurred in my own practice, the other five days earlier in the practice of my assistant, Dr Hart.

Afterwards, by way of commentary on these cases, I offer some observations on the following topics which they illustrate:—

I. Sterility from Persistence of the Hymen and from Retroflexion of the Uterus.

II. The Peculiarities of the third stage in cases of Placenta Prævia.

III. The Remote Results of Hæmorrhage during Labour.

IV. The Relations of Placenta Prævia to Primiparity, as to, 1, its Causation, and, 2, its Results in Primiparous as compared with Multiparous women.

THE CASES.

CASE I. *Anamnesis*.—MRS A consulted me for the first time in April 1877. She stated that she was thirty-five years of age; had been married for four years; had never conceived; always suffered pain in the pudenda when coition was attempted; and for some time past had begun to lose more than the usual amount of blood at the menstrual periods, which were now also coming on at shorter intervals, and that she was falling off in her general health.

Physical Diagnosis.—When I attempted to introduce a finger through the vaginal orifice, I felt that the aperture was still obstructed by an unruptured hymen, and the expression of suffer-

ing elicited from the patient made it necessary first to inspect the pudenda. They were everywhere normal and healthy, except that the hymen itself was unusually vascular, and the surface of the navicular fossa at its base was irritated and partly abraded. Exercising a little more gentleness, I was now allowed by the patient to pass the finger through the hymeneal aperture until I could reach the roof of the vagina. The os and cervix uteri were normal; but in the posterior fornix I felt a rounded body which, on combined palpation from above, I judged to be the fundus of the enlarged and retroflected uterus. I did not then use the sound, nor did I think it necessary to form a definite diagnosis as to the uterine condition, because the indication for present treatment was clearly to remedy the mischief lower down, and because the examination with fingers or sound could not be conducted without causing unnecessary suffering. Noting therefore the displacement, but writing "myome?" as well in my note-book, because the age of the patient and the absence of any traceable cause for the dislocation left me somewhat in doubt, I proceeded at once with the

Treatment.—Lubricating the finger afresh with soap and warm water, I passed first the index through the orifice, and then gradually insinuated the middle finger alongside of it till the aperture was fairly permeable. The patient was instructed to use large sized pessaries of iodide of lead vaginally, and to take ergot of rye internally. The dyspareunia completely disappeared. The menorrhagia was checked by the ergot, which the patient at first took for four weeks, and for some months afterwards for a week at a time during the menstruation. In the intermenstrual intervals she was put on small doses of arsenic. Her general health improved; the menstrual cycles were prolonged to nearly their normal four weeks; marital intercourse was carried on healthily; but the sterility remained.

Four months had elapsed, and the uterus still being large and retroflected, I replaced it on 13th August with the sound. The following day the uterus was found to have fallen back into its abnormal position. I therefore again replaced it, and introduced a vulcanite vaginal Hodge pessary, with the view of retaining it in its proper position. The day after the uterus and pessary were in good position, and the patient was instructed to go on wearing it. With the view of promoting uterine contraction and disengagement, and improving further the patient's strength, she used for some weeks pills containing ergotin, extract of nux vomica, and chlorate of potash. From the 23d to the 27th of March in 1878 she menstruated for the last time. She had conceived. I saw her from time to time during her pregnancy, which progressed without any unusual symptoms till towards the close, which was expected in the last week of December.

The Labour.—Early in the morning of the 9th, however, I was called to see her, as she had been wakened during the night by an

escape of blood from the vagina. The fundus uteri was still high up in the abdominal cavity. The outlines of the foetus could be felt through the abdominal and uterine walls, the head lying at the brim of the pelvis, and the back of the child towards the right side of the mother. Auscultation confirmed the diagnosis that the foetus was placed in the right occipito-posterior position. The patient's bedclothes and bedding were widely stained with blood, and so were the external genitals. There was no fresh blood, however, in the vagina. The external os barely admitted the tip of the finger; but the diagnosis of placenta prævia was made not only from the unprovoked escape of blood, but from the thickened feel of the lower uterine segment through which, without the external examination, it would have been impossible to make out the presenting head of the child. The patient was kept in bed for five days, as there was a slight threatening of hæmorrhage on the 11th, and thereafter she remained more or less recumbent on a sofa in her bedroom, or in the drawing-room, which was on the same flat.

At six o'clock on the morning of the 19th I was again sent for. There had taken place a very profuse flooding, which alarmed the patient, and made her feel faint. The whole uterus had now settled down a little into the pelvic brim. The foetal heart was active, and the foetus was still in the right occipito-posterior position, with the head presenting. The soft canals were more relaxed, and undergoing vital dilatation. The cervix was easily permeable to the finger, which found its upper extremity entirely occupied by placental tissue. The uterus had begun to act, but the pains were feeble and the intervals prolonged. But when, with stronger pains, there began between 7 and 8 a new flow of blood, though of slight extent, I introduced the largest size of Barnes's dilators into the vagina, and distended it to its utmost with warm water. The contractions became more vigorous and frequent, and no blood flowed past the tampon. Between 9 and 10 Dr Hart came to assist me, and to take my place while I went to lecture. At this time I removed the large vaginal dilator. Its removal was followed by the escape of some clots and a quantity of serum. The cervix had become more expanded, and a bare portion of the membranes could be felt towards the right side, corresponding to about a third of the dilated orifice. Five grains of ergotin were now injected hypodermically. The second largest of the Barnes's dilators was carried through the os internum. During the introduction some hæmorrhage occurred from partial detachment of the placenta. The bag was quickly distended to an extent sufficient to make it fill and stretch the canal. From time to time more water was thrown into it, and when I returned after lecture soon after noon, finding it dilated to its utmost capacity, we removed and replaced it with the largest sized one. The foetal heart was still beating normally, though the mother's pulse had already become frequent and weak.

The large bag having been distended to its utmost, the uterine action being regular, though not very strong, and the parturient canals sufficiently dilated and relaxed to allow of the active interference which was demanded by the tendency to recurrence of the hæmorrhage, the patient, who had already breathed some chloroform to relieve the pain caused by the introduction and pressure of the hydrostatic dilators, was now more completely narcotized. Judging, whilst the mother lay on her left side, and the face of the child was turned in the same direction, that the right hand would most naturally pass along the anterior aspect of the child, I chose it for internal manipulation. In passing into the cavity of the ovum, I made my way partly through membranes and partly through the placenta, the $2\frac{1}{2}$ inches deep rent in the margin of which still remains. There was no difficulty in seizing and bringing down the left leg, and effecting the version of the child. Considerable tractile force, however, required to be applied to bring down the breech, with the right leg folded on the abdomen through the passages. The cord was still pulsating, but feebly, when the trunk was exposed. The arms had gone up by the sides of the head. As the child was making attempts at inspiration, the arms were quickly freed, and the head easily followed, steady pressure being kept up on the fundus uteri by Dr Hart.

When fairly born the child seemed to be quite still, and the heart-beat was slow and weak. Under friction of the chest it at last made a feeble effort at inspiration, but no air entered the tubes. It was suspended by the heels, and whilst the throat was being cleared out in this position it made another and more successful effort. The head and heels were alternately elevated and depressed until it had made inspirations enough to make us feel sure that the blood was getting aerated. It was laid on its back, and allowed to breathe quietly, until of itself it began to cry. All this at the edge of the bed before its complete separation from the mother. The cord was now tied and divided.

Meantime another subcutaneous injection of five grains of ergotin had been administered to the mother, as the uterine walls remained flaccid, and a slight but continuous escape of blood was going on. Some fifteen minutes or more had elapsed since the birth of the child, and it was disappointing to find that no progress was making with the third stage. Powerful compression of the uterus through the abdominal walls, which so rarely fails to give us the placenta, failed here, so that the hand had to be once more introduced into the uterus to detach it. I was surprised to find the placenta area so extensive that the upper border of it reached high up the left side and posterior wall of the uterus, and remarked that to this wide extent of the placenta it was probably owing that the vitality of the fœtus had been sustained. After I had got the placental mass lying loose in the right hand, I still kept it for a considerable time in the interior of the uterus, and continued to compress the fundus with the left hand

until the uterus began to contract steadily and strongly enough to expel all its contents. A third subcutaneous dose of five grains of ergotin was administered during this time, and after the uterus was emptied it contracted firmly, and there was no further notable hæmorrhage. It was now seen that the perineum had been torn back close, but not in to the anus. There was also a trifling laceration, or rather two, in the cervix uteri, but not more than we may see in any first labour, and less than we often meet with in natural labours. Two metallic stitches were introduced pretty deeply through the perineum, and secured at the skin surface. It was now 2 o'clock when the patient was tidied and left to rest. She was quite blanched, and very prostrate, and the pulse rapid and weak, but quite steady.

The Puerperium.—19th December, *Vesp.*—Pulse 120; temp. 101°. Has taken milk and beef-tea. Urine drawn off with catheter.

22d December.—Pulse 120; temp. 102°. *Vesp.*—Pulse 120; temp. 103°. Some tenderness over abdomen. To get turpentine stupes, and 1 mm. aconite every hour.

23d December.—Marked tympanitis, but no great pain. Pulse 120; temp. 103°. To have local treatment continued, and to take 8 mm. of turpentine thrice daily in milk. Milk and beef-tea to be continued, and a tablespoonful of brandy given every hour. *Vesp.*—Pulse 120; temp. 104°. Ten grains of quinine given.

24th to 28th.—Same as 23d. Evening temperature still 104°, and unaffected by quinine. Some diarrhœa on 27th; checked by lead and opium pills. To get aconite instead of quinine.

29th, *Vesp.*—Seems easier, and temperature now 102°; pulse 108. Tympanitis continues. Stitches removed. Partial union.

30th December to 3d January.—Improvement now steady, and temperature falling.

During the first three or four days morphia was given at night. On the 24th the amount of brandy was doubled. Quinine seemed to have little effect on the temperature. Aconite was much more useful, as seen by record of 29th. There was never any pulmonary nor cardiac disturbance. Urine was made freely, but generally with pain.

From this point on, the patient had a rapid convalescence. The only drawback was that on 1st January, the day when she first was taken into the dining-room, she had pain in the calf of the left leg, and a wooden feeling in all the muscles, which made me apprehensive of phlegmasia. Under careful massage, however, and the administration of tincture of the muriate of iron, the threatening passed off, and she is now quite well.

As for the infant, it ought to be recorded, that the day after its birth its left leg was found to be greatly swollen; there were abrasions of the skin above the malleoli, and the limb hung stiffly from the pelvis. I was satisfied that there was no injury in bone or joint; but I believe that laceration of some of the structures in

the upper third of the thigh had taken place. The swelling was there very great, so that the skin became quite tense, and it looked blue, as from ecchymosis underneath. For a week the limb remained swollen and straight, but the swelling gradually subsided. The muscular power of the limb was restored, and now the infant, which is thriving on the milk of a wet nurse, moves the legs as naturally as if no damage had ever been sustained.

The history of the next patient I give in the words of Dr Hart.

CASE II.—Mrs B, æt. 37, married in January 1878, was first seen and treated by Dr Simpson for endometritis and left perioophoritis in the end of the same month. Under suitable treatment the inflammation subsided. She was seen again in May, when she was found to be two months pregnant. During her pregnancy there was nothing unusual unless occasional attacks of acute bronchitis. On 10th December I was sent for, and found that a day or so before she had passed some blood *per vaginam*, owing, as she thought, to the violence of her cough. External palpation showed that the head was at the brim, with back to right side. No foetal heart sound was audible. On vaginal examination the cervix was touched with difficulty, the os was found small, and the head could not be felt. She was ordered to take rest, and sedatives were given to allay the violence of the cough. After that she was seen every day, but no more bleeding occurred until the 15th, when she suddenly lost a considerable quantity. I saw her soon after, and found the vagina full of clots. There were no irregularities in the uterine wall, but the cervix was suspiciously boggy. A sponge-tent was introduced with difficulty into the os, which was only about the size of a pea. Dr Simpson saw her then, but was unable to pass his finger into the os owing to the presence of the tent. He remarked on the bogginess of the lower segment of the uterus and other features in the case as pointing to placenta prævia. The sponge-tent was left in for twelve hours, and when removed the os easily admitted three fingers. The placenta was then found lying partially over the os internum at the left side. Barnes's dilators were now used, and at four o'clock on Monday afternoon I turned by the bipolar method and brought down a leg. Repeated auscultations had failed to catch the foetal heart, and I therefore did not extract at once, but left the case under Dr M'Watt's charge so as to allow the parts to dilate well. At eleven o'clock no progress had been made in the labour, and therefore, while the patient was under chloroform, I passed up my hand and found that the other leg had become doubled up in the brim and thus caused the delay. It was brought down and the child extracted with difficulty. After waiting for about fifteen minutes, and employing manual compression to the uterus, the placenta did not descend. On examination I found it adherent in about its upper two-thirds, and accordingly had to separate it manually. After this there was no bleeding, and the patient made a good recovery, delayed somewhat, however, by her bronchitis.

COMMENTARY.

There are, as I have indicated, four points in these cases, and more particularly in the first of them that seem worthy of special remark.

I. STERILITY.—The causes of sterility in a woman, who has been married for some years without conceiving, may lie in any of the planes of the sexual apparatus. Not unfrequently more than one source of difficulty can be found in the same individual. Of this our patient affords a simple illustration.

1. *Persistence of the Hymen*.—This lady had been married for four years when I first saw her, and up till that time complete connection had never taken place. We all know that conception may follow a coitus where the hymen is unruptured, and the accoucheur may find the aperture still narrow when labour supervenes. Such cases are recorded and referred to in the last fasciculus of our *Transactions*, in a paper by Dr James Young and the discussion which followed. These, however, are usually cases of illicit intercourse, where improper familiarities were permitted to an extent which the female, at least, believed to be safe. Even in such cases, where the process is repeated from time to time, the hymeneal orifice may become well dilated, although the borders of the membrane have never been infringed. Not long ago I was consulted by a young lady whose friends were getting anxious about her health, because she had passed six months without altering. She had permitted her lover, to whom she had been engaged for three years, to indulge in such liberties as I allude to, with the result that the orifice had gradually become dilated, and though she was sure that there was nothing amiss with her, because she had never lost blood, she was already six months pregnant. Instances of conception with undilated hymen are almost unknown in the case of married women, and in a considerable proportion of cases of sterility we must set down the sterility as due simply to the permanence of the hymen. This permanence may have various causes apart from rigidity, natural or morbid, of the hymeneal tissue.

1st, *Ignorance*.—The married pair may be simply ignorant of their mutual marital duties. Many years ago I attended a lady in Glasgow in her first confinement, who had been some length of time married before she ever conceived. She had come to my friend Dr Drummond thinking that she must be the subject of some abnormality. He found the organs all normal, but absolutely virginal, and the patient expressed some astonishment when her physician asked if her husband had never attempted to effect an entrance into the vagina. She conceived soon afterwards, and I attended her in that and in her two subsequent labours.

2d, *Partial Masculine Impotence*.—A hymen of ordinary structure may resist the efforts at penetration of a husband with

diminished virile powers. Three years ago I saw a lady of 32, who had been married for thirteen months to a husband upwards of 50, who had never previously been married. She wished to know why she had not conceived. There seemed to be no other cause than the persistent hymen. I dilated the orifice with a set of rectum bougies, and she conceived within a month, suffered from an early abortion, but again conceived and came to town, and was delivered at the full term of a male child that presented by the breech.

3d, *Awkward Connexion*. — There is a third and far more frequent class of cases where the persistence of the hymen is due to what I can only designate awkward connexion. The husband makes his approach without taking any pains to call up so much as desire on the part of the wife, in whom the parts are still flaccid and dry, and he attempts to effect an entrance without producing any friction of the sensitive external organs. The result in such cases is the production of so much suffering to the female that an unselfish husband suspends his efforts, leaving the navicular fossa tender and irritable, and under a repetition of the process the structures may become so sensitive to pain that the wife dreads his embrace. Such I take to have been the explanation of the condition I found in the case before us.

It is sufficient to indicate the conditions under which the persistence of the hymen prevents conception. The treatment in all such cases is clear. The orifice must be more or less effectively dilated by mechanical means, or guidance given for its effectual physiological dilatation, and the difficulty is at an end. Only in the third group the use of some soothing pessaries or emollient injections may be required to heal the injured surface. In the case of Mrs A, the passing of two fingers through the vaginal orifice, and the use of some iodide of lead pessaries, sufficed to effect a cure of the hymeneal disorder, and the process, which was a pain or an aversion to the patient, became not only tolerable but pleasurable. The uterine difficulty, however, remained. Four or five months were allowed to elapse, and though coitus was now correctly carried out the sterility remained because of—

2. *The Retroflexion of the Uterus*.—One might write a book on the conditions of this central organ of the sexual system which are hostile to reproduction. I only invite attention at present to the condition which kept up the sterility in our patient—the backward displacement of the uterus. I do this all the more urgently that the subject of uterine dislocations is one which a certain group of respectable gynecologists pride themselves in slighting, or even trying to teach the profession to ignore. Reviewers may load the pages of our journals till they are ready to sink under the length if not the weight of their strictures on physicians who recognise the existence of these mechanical disorders, and remedy them by mechanical means; but the man who has seen one such

case as this which we are now considering will be apt to suspect that these review-writers are more skilful in handling the critic's pen than the practitioner's probe. I have seen many such cases. Most frequently, as Dr Marion Sims¹ has shown in his interesting statistics, the backward displacements are prominent in cases of acquired sterility—in cases, *i.e.*, of women who have given birth to one or more children, and have ceased to conceive before their usual period of reproduction was run out. In the present instance and in other patients whom I have seen, however, the displacement had come about antecedently to marriage, and proved a bar to conception. This it may do either by marring the function of the uterus and Fallopian tubes as the canals for the upward transit of the spermatozoa, or by impairing the function of the uterus as the organ for the reception and lodgment of the fertilized ovum.

At whatever time the displacement has been produced, and in whatever way it interferes with reproduction, it is of the greatest moment to the barren woman that it should be recognised and rectified.

1st, Recognition.—It may be recognised by the finger introduced into the vagina, and still more definitely when two fingers can be used simultaneously for exploration. The detection of it may be aided by dragging down the cervix with a volsellum. Greater certainty still can be attained by the combined external and internal examination, by which means the great proportion of cases can be clearly diagnosed. There remains but the employment of the sound, which may be used with due precautions to give absolute certainty of diagnosis in any case, and which must in some be used as the only sure means of detecting the displacement.

2d, Reposition.—The sound need not by any means be used for the *recognition* of every case. Many are clearly recognisable without it. But there are few cases where the *reposition* is not best effected by means of it. For when the condition has been recognised, it becomes our plain duty to attempt to rectify it. We are sometimes bidden look upon the endometritis or general congestion that almost invariably accompany retroflexion as the essential mischief in the patient requiring special treatment. We do well in many instances to attend to this injunction, but certainly not in every case of retroflexion. According to my experience, the converse more frequently holds good—that if you straighten the uterus, and keep it straight, the congestion disappears, and of this our patient furnishes an illustration. Happily we do not need to follow theorists on either side. But, as a rule, whatever may be done, the uterus must be replaced. The reposition may be effected in various ways. We may do it by internal manipulation alone in some rare cases—more particularly if, at the same time, the patient be placed prone, or the cervix be dragged down with a volsellum. Better still, in a greater variety of cases it may be brought about by combined internal and external manipu-

¹ *Uterine Surgery*, p. 237.

lation. Or the patient may be placed in the knee-elbow position, and the posterior wall of the vagina held up with the fingers or a Sims speculum; or, by letting air rush through a tube to distend the canal, according to Campbell's procedure, the uterus will be straightened. I have tried all the various methods in many cases, and in some patients have only succeeded at last in rectifying the uterus by simply passing in the sound and turning it round in the method originally described by its British inventor. I have yet to see the patient suffering from a simple retroflexion of the uterus, in whom I can cause any notable degree of suffering or induce any dangerous symptom by lifting up the organ with the ordinary sound. Its retention can, in most cases as in the present instance, be best effected by means of a Hodge pessary.

II. PECULIARITIES OF THE THIRD STAGE IN PLACENTA PRÆVIA LABOURS.—I may be allowed, in passing, to make some observations on the peculiarities in the third stage of labours complicated with placenta prævia. These observations hold good to placenta prævia cases general as well as to primiparal placenta prævia cases, although I am led to make them from the circumstance that in both our cases it was found necessary to extract the placenta artificially.

1. *Common Necessity for Shortening the Third Stage.*—To begin with, we can rarely afford to allow any lengthened interval to elapse in such cases between the birth of the child and the complete evacuation of the uterus. The loss of blood which the patient has sustained during the first stage of the labour may have proceeded just so far that she could survive it, but a slight additional drain would prove fatal. Unless the uterus be contracting with even more than usual vigour, it is likely that there will take place additional loss of blood, owing to the partial detachment of the placenta that has been produced. In ordinary cases where the patient has lost no blood previously, and where the placenta lies high and perhaps either unseparated or else completely separated in the uterine cavity, we may wait for half an hour or more without seeing any hæmorrhage to call for interference. But where the patient is already largely drained, and some degree of hæmorrhage is necessarily progressing, as takes place so commonly in placenta prævia cases, the indication for artificial shortening of the third stage becomes very urgent and immediate.

2. *Inertia of the Uterus.*—Again, even if delay were safe, it would in these cases require to be unusually prolonged. For, *first*, the placenta, or what remains of it still adherent to the uterine walls, is attached low down in the cavity where the muscular walls are thinnest and weakest, and where but a limited set of the muscular bundles can come to bear on it for its detachment and extrusion. And, *secondly*, the rapid withdrawal from the uterus of the main mass of its contents, leaves it with a tendency to inertia,

which can only be overcome by active pressure and the use of ergot. The muscular conditions of the uterus thus form a second indication for interference in the third stage, of which we have an illustration in Mrs A.

3. *Adhesion of the Placenta*.—But in Mrs B we get an illustration of yet another difficulty, which we may be prepared to meet in such cases. There the placenta was so firmly adherent to the uterine walls in consequence of inflammatory changes in the maternal portions of it, that its separation required extreme care and caused some difficulty. It is just such an adhesion as may require similar interference after an otherwise normal labour. Only, here the inflammatory changes in the uterus, to which in this case the prævia complication was due, asserted their mischievous influence further by leading to this firm adhesion between the uterus and the badly-placed placenta. Such a double evil result is easily intelligible.

III. REMOTE RESULTS OF HÆMORRHAGE.—It has always seemed to me that whilst the immediate dangers of hæmorrhage are well understood and set forth in text-books, its more remote risks have received less attention than they deserve. I have now so often seen insanity, or phlegmasia, or pelvic inflammations, or general peritonitis arise in patients whose labours had been complicated with a flooding, that I was not surprised when the dreaded rise in temperature took place in our patient, and the abdomen began to be tympanitic. All precautions were taken to prevent any septic poisoning in this case, and if we are to assume such a poisoning, I do not know where to find its source. Seats of absorption, of course, there were plenty; but the patient's own discharges were not unhealthy, her canals being regularly syringed with an antiseptic lotion, and the hands, instruments, and sponges that were applied to her were all carefully cleaned. The case appears to me to illustrate the special proclivity to inflammatory affections of a woman who had suffered from an extensive loss of blood. But instead of dwelling further on this subject, I proceed to direct your attention to one which arises more specially from consideration of the cases before us, viz.—

IV. THE RELATIONS OF PLACENTA PRÆVIA AND PRIMIPARITY.—Sir James Simpson¹ has directed special attention to the rarity of placenta prævia in cases of first labours, and the statistics he has collected show a proportion of only 11 primiparous to 136 multiparous patients suffering from this complication. This gives a proportion of 1 to 12½. Kuhn² gives the proportion of 6 primiparæ to 40 multiparæ with placenta prævia, or a ratio of 1 to 6½. In the extensive series of cases tabulated by Dr Read in his

¹ *Selected Obstetrical Works*, p. 282.

² Quoted in Schröder's *Geburtshülfe*, s. 558.

work on *Placenta Prævia*,¹ I find 428 where the number of the pregnancy is given. Of these 65 were primiparæ and 363 multiparæ, which gives us a proportion of 1 to 5½. Ludwig Müller, in the most recent treatise² on this subject, finds among 1574 cases of placenta prævia, 227 in primiparæ, or 1 in 5½. This comparative rarity in primiparous patients may well indicate, as Sir James,³ with his usual richness of suggestion, has hinted, that it has to do with "the cause or causes leading to the origin or production of that deviation in the site of the development of the placenta which constitutes placenta prævia." Let us inquire into

1. *The Cause of this Rarity*.—From one of the conditions which favour the prævial implantation of the placenta, the primiparous patient is entirely free. I refer, of course, *first*, to the dilatation of the uterine cavity and diminished tonicity of the uterine walls, that are apt to remain after a previous pregnancy, the deleterious influence of which is more marked when the new conception follows quickly on the preceding labour, or when some degree of subinvolution has remained. But, *secondly*, the primigravid female is less likely than one who has already borne children to have been the subject of the chronic inflammatory affections of the endometrium, that not only lead to change in the form of the uterine cavity, but impair the functions of the mucosa at various parts, and unfit it for the easy ingrafting of the ovum in the most favourable zones. Again, *thirdly*, as we have seen that retroflexion of the uterus is rarely met with as a primary cause of sterility, whilst it is a not infrequent affection among women who had given birth to a fertilized ovum, so we can see that its tendency to modify favourably the site of the placenta will be less marked among primiparous than among multiparous women. And, *fourthly*, the injurious influences of organic disease of the uterus on the placental implantation will be less likely to be met with in first than in subsequent pregnancies. Probably the age at which women usually conceive for the first time protects them from the conditions which favour the production of placenta prævia, and a point which is worthy of very special note is—

The Age of Primiparæ affected with Placenta Prævia.—This is a subject, which, so far as I know, has not been looked at hitherto. In the tables of Dr Read, from which I have already drawn, I find the ages of 33 of the primiparous cases of placenta prævia are given. If to their united ages we add that of the patients whose cases I have recorded above, we get 28½ years as the average age of the women who were affected with placenta prævia in

¹ *Placenta Prævia: Its History and Treatment*. By William Read, M.D., Philadelphia, 1861.

² *Placenta Prævia, die vorliegende Nachgeburst: ihre Entwicklung und Behandlung*. Stuttgart, 1877, p. 151.

³ *Loco citato*, p. 283.

their first labours. Five of the thirty-five were 40 years old and upwards, only four were 20 and under. How are we to interpret this marked partiality of placenta prævia in primiparous women for those whose first labour comes on at an advanced age? It may mean that in a young married woman some morbid condition has arisen which has delayed conception for some years, until the usual dates of primiparity were passed; and continued to exert a prejudicial influence upon the progress of the pregnancy, parturition, and the puerperium. I have seen illustrations of all these. But it may be read another way. The longer a woman lives before being married the more chances she has of becoming the subject of some morbid condition which, now that she does marry, either prevents conception, or mars the normal development of the ovum, or lays the foundation for some anomalous labour. The cases of the two patients, whose history I here record, points to an explanation in this direction; for Mrs A was 31 years of age before she was married, and Mrs B was 35.

2. *Fatality of Primiparal Placenta Prævia*.—As in natural labour, and indeed in all varieties of labour, so here primiparity tells injuriously on the prospects both of the mother and the child.

1st, *Mortality among the Mothers*.—We can easily understand how the less easily dilatable canals of any primiparous woman will make the delivery in placenta prævia both more difficult for the practitioner and more dangerous for herself. The difficulty and the danger only become more obvious when we remember the advanced age at which we find it so frequently occurring. The general maternal mortality in all the cases of placenta prævia collected by Read¹ amounts to 1 in $4\frac{1}{4}$. There are 1628 cases altogether, with a mortality of 380, or 23·3 per cent. Among primiparous cases the mortality rises to 1 in $3\frac{3}{8}$. Of the 65 cases, 18 died, or 27·7 per cent.

2d, *Mortality among the Children*.—The proportion of the children that are lost in placenta prævia cases is startlingly high. From Read's statistics we gather, in taking all the cases where the result to the child is given, that the deaths exceed the survivals by nearly twenty per cent. In 854 cases there were 508 dead children, giving an infantile mortality of 59·5 per cent. The proportion of fatal cases among the infants also becomes much greater when the mother is primiparous. In 56 first labours, where the result is given, 39 of the children were dead, giving a mortality of 69·8 per cent. The record is all the darker when we note in the column of "remarks," that in three of the cases the children died within "a few hours," "next day," and "in three days," and if we transfer these from the survival column to the black list we get a mortality among the infants of 75 per cent. This mortality

¹ *Loco citato*, p. 12.

among the infants is partly due to the circumstance that the labour so often comes on prematurely; most of the first born children that survived, so far as we can learn from Read's statistics, having been carried till the 8th or 9th month; only one was born at $7\frac{1}{2}$ months. I would only add with respect to the injury of the infant's leg, that it was new to me to observe the lacerations of the muscles and vessels that had obviously taken place. But then the infants brought into the world under similar circumstances are most frequently dead, as we have just seen. Hence, though such injuries may have been inflicted on them, we have no vital reaction to betray the mischief.